

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 30 SEP 2004

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2004/000944

International filing date (day/month/year)
20.01.2004

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC
C08L63/00, C08G59/00, C08J5/24, B29C70/08, C08K5/00

Applicant
HEXCEL COMPOSITES, LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Zeslawski, W

Telephone No. +49 89 2399-7159



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-23
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-23
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

see separate sheet

Reference is made to the following documents:

- D1: US-A-5 166 229 (NAKANO TAKAHIRO ET AL) 24 November 1992 (1992-11-24)
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- D4: US-A-3 666 615 (YAMAZAKI KAZUKIYO ET AL) 30 May 1972 (1972-05-30)

Concerning Point V:

Novelty (Art.33(2) PCT)

Document D1 discloses an epoxy resin gel composition comprising an urethane-modified bisphenol A type epoxy resin, a gelation agent, and a curing agent. The said epoxy resin composition forms one-pack thermosetting adhesives.

Document D2 discloses a fibre reinforced resin assembly, wherein a curing agent is uniformly dispersed in a crystalline epoxy resin.

Document D3 discloses a preform composite comprising a layer of a fibrous reinforcing material having on opposite surfaces thereof two different thermosetting resin layers.

Document D4 discloses a composite layer sheet material, wherein a thermosetting resin layer and a hardening agent layer are separated by a contact preventive film layer which melts on heating and allows thermosetting resin to be cured.

The subject matter of claims 1-23 is regarded as being novel, since none of the cited documents discloses a resin composition comprising liquid and solid thermosetting resins and gelation agent as claimed in the present application.

Inventive Step (Art.33(3) PCT)

Document D1 is considered to represent the closest prior art. The subject matter of the present application is distinguishing from the closest prior art by the use of an additional thermosetting resin, which is dispersed in the gelled liquid thermosetting resin.

There appears to be, however no particular technical effect over prior art connected to this distinguishing feature. Therefore, the objective technical problem was to provide an alternative composition.

In the absence of any evidence, that the presence of an additional thermoplastic resin solves any technical problem in an unexpected manner, it seems to be that the subject matter of claim 1 of the present application is a routine modification of the resin composition of D1.

Miscellaneous

The wordings: "is present in a sufficient amount to form ... than said low viscosity state"

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of claims 1, 7 and 19; and the last par. of claim 7 are not regarded as being technical features, but merely as corresponding results to be achieved (Art.6 PCT). It appears to be possible to define the subject matter in more concrete terms, vis in terms of how the effect to be achieved.

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